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ABSTRACT

The question of what happens when a prison adds PLATO computer-based education to its school program is addressed in this paper describing the PLATO Corrections Project (PCP), which grew out of a need to accommodate students too advanced for adult basic education classes and not well trained enough to survive in high school equivalency, or GED, classes. The program described was developed to provide a class structure in which such students could learn basic academic skills, study skills, and the self-monitoring skills needed for the GED classes. Basic information is provided on starting a PLATO classroom in a correctional center which identifies what both the PCP and the school will need to do, and a short case history of the implementation of the PCP package at Graham Correctional Center, a medium security prison in Hillsboro, Illinois, shows how the package worked at one institution. The case history includes background information, preparations for and installation of the classroom, training for teachers and inmate aides, classroom routines, monitoring of the program, achievement results, the future of PLATO at Graham, and a brief assessment of the instructional effectiveness and adaptability of the program. A six-item suggested reading list is attached. (LMM)

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PLATO® AT GRAHAM CORRECTIONAL CENTER:

STARTING AN INNOVATIVE CLASSROOM

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June 1982

The work reported here was carried out by the PLATO Corrections Project (PCP) staff at the Computer-based Education Research Laboratory (CERL), University of Illinois, under contract with the Illinois Department of Corrections School District #428.

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Introduction

What happens when a prison adds PLATO computer-based education to its school program? This paper answers this question, first, by listing some basic information on starting a PLATO classroom, and second, by providing a short case history of the implementation of PLATO in Graham Correctional Center, Hillsboro, Illinois. The history discusses: 1) background; 2) preparations for installation; 3) installation and training; 4) classroom routine; 5) monitoring of the implementation; 6) achievement results; 7) the future of PLATO at Graham; 8) conclusions. While the supporting systems for a PLATO classroom have improved since the period of time covered in this report, much of the history of PLATO at Graham reflects what another site could expect when beginning a PLATO implementation.

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Starting a new PLATO classroom

Below is some basic information on beginning a PLATO classroom in a school program in a correctional setting.

A. Here is what PCP will need to do:

1. Analyze school needs. The PCP staff will want to get to know the needs of the prison school in order to make a good fit between the PCP program and the existing school program. PCP staff will expect to talk with education administrators, assistant wardens for program, and teachers. Information about class schedules, school organization, and classroom management, will all help PCP integrate into the ongoing program.

2. Provide curricula. PCP will supply not only PLATO terminals but a curriculum of lessons in reading, mathematics and language (most lessons at the 4.5 - 8.0 level). Further, an instructional management system will be provided for assigning students, monitoring their instruction, and testing their achievement. The program also includes paper-and-pencil instructional materials, some of which are originals to be duplicated at the school, and some of which are published materials which the school may buy. Some lessons beyond the 8.0 level will also be provided as enrichment for advanced students.

3. Training. The teachers in the pre-GED school program and the inmate aides will receive training from the PCP staff. The training workshop will be followed by PCP staff support of the new classroom via PLATO. Occasional in-service workshops will also be provided as needed.

4. Site visits. The PCP staff will visit the school regularly, in order to find out first hand how the lessons are working with students, provide educational support, and maintain the PLATO terminals.

5. Monitoring. The PCP staff will gather information about the school's use of the curriculum and the management system, in order to improve services and provide educational support to the classroom teacher.

6. Program evaluation. In order to assess the educational value of the PCP curricula, the PCP staff will collect achievement test scores on all PLATO students.

B. Here is what the school will need to do:

1. Classroom. The school will need to provide adequate classroom space for twice as many students as there are PLATO terminals. Adequate phone lines, power, security, tables (both for PLATO terminals and for students working with paper and pencil materials), and air conditioning will need to be provided as well.

2. Training. School administrators should plan on taking PLATO training for about two days approximately six weeks prior to the time the instructors are trained: administrators need to know how a PLATO installation is run in order to make educational decisions in preparation for the new program. Instructors will be trained before the new classroom gets underway. Three days of training is desired. Inmate aides will be trained on-site.

3. Teachers and aides. The school must choose a teacher for the PLATO classroom. Some of the qualities to look for in a PLATO teacher are: experience with educationally disadvantaged students, skill as a classroom manager, willingness to work with new technology, and willingness to spend the time necessary to learn how to use the instructional management system and the lessons. It is better to augment a strong teacher than to bolster a weak one with the resources of PLATO. The school will also need to provide an inmate aide for the PLATO classroom. Qualities to look for in an aide are: responsibility, a GED certificate, and liking to work with students, teachers, and administrators.

4. Scheduling. The school must expect to arrange the school schedule so as to maximize the student use of PLATO; PLATO is an expensive resource and should be used as heavily as possible during the school day. Some means used to extend usage are the addition of night classes and the overscheduling of the classroom (in some prisons students have the right to skip class, so more students than the classroom can handle must be assigned) in order to keep the terminals fully exploited.

5. Supplies. The school will need to duplicate the paper and pencil instructional materials, or buy the recommended published materials.

6. Testing. The prison staff will be expected to give and grade the achievement tests and supply the scores to the PCP staff.

7. Lesson review. When new lessons are released, the PLATO teacher will be expected to assign the new lessons to appropriate students, to observe the students using the lessons, and report problems to the PCP staff.

8. Maintenance. The teacher will be expected to report all problems with the PLATO terminals and cooperate with the maintenance staff in their repair.

Case History: PLATO AT Graham Correctional Center

Background (1973 - 1980)

Beginning in one institution with one terminal in 1973, the PLATO Corrections Project has grown to 37 terminals located in six Illinois prisons. In 1979 the correctional school system's inmate population shifted to a younger, less educated group of students. The prisons' educational program was faced with many more students who were too advanced for the Adult Basic Education (ABE) classes, and not well trained enough to survive in the high school equivalency, or GED classes, where instruction mainly took the form of lecture and discussion. What was needed was a class structure in which students could learn three things: basic academic skills, study skills, and the self-monitoring skills needed to survive in the GED class.

The PLATO Corrections Project developed a program responding to this need, providing the lessons in basic skills, the structured practice needed to bring these skills to mastery, and the information about each student's academic progress, such that the student would learn how to monitor his own performance. The PCP system, then, was designed to provide a structure for students; at the same time, some limitations were necessarily being suggested for prison schools: the selection of students, the number of hours during a week to be spent in instruction, the instructional materials used, and the standards for promotion, were all part of the package which the institutions were to work with as part of PCP. The following account of the PLATO implementation at Graham Correctional Center will show how the package worked at one institution.

Preparation for Installation (August, 1980 - April, 1981)

In August, 1980, plans were first made to install PLATO terminals at Graham Correctional Center, a medium security prison then under construction. Two PCP staff members and a PLATO engineer arranged a visit with the educational administrators at Graham.

The engineer discussed with the assistant educational administrator the special requirements of a PLATO classroom, explaining that an air conditioner would be needed to keep the room containing the terminals at less than 80 degrees. Each PLATO terminal would need a duplex electrical outlet and a duplex phone line outlet.

The director of PCP site programs explained to the educational administrator that the PCP program was a combined program of computer tests, lessons, and performance records, coordinated with regular paper and pencil exercises. It was aimed at students in the 4.5 - 8.0 grade equivalency range, as determined on the Test of Adult Basic Education (TABE), a test used throughout corrections in Illinois. A teacher and at least one inmate aide would be needed in the classroom on a fulltime basis. Since Graham was expected to receive 8 PLATO terminals, the school could plan on serving classes of sixteen students: while 8 students would work

on PLATO lessons, the other 8 would work on the pencil and paper components. The possibility of starting a night school program was also discussed. The educational administrators had familiarized themselves with the PLATO program at Sheridan Correctional Center and at Menard Correctional Center. Therefore they were already conversant with many issues regarding their roles as PLATO administrators.

When the contract amendment for PLATO at Graham Correctional Center was signed in March of 1981, a return visit to Graham was arranged. The PLATO engineer reviewed the PLATO classroom's electrical and phone line requirements with Graham's chief electrician. The PCP staff members and the educational administrators visited the PLATO classroom and agreed on the placement of terminals and the use of study carrels for the students working in text materials. The PCP staff briefly observed a few classes in session, and were favorably impressed with the teaching at Graham.

The PCP staff met the instructor who was to be the first fulltime PLATO teacher, and arranged that he should have the week after his training in Urbana to familiarize himself with the lessons and plan how to manage a PLATO classroom, before he started working with students.

Two inmate aides, who would have at least a GED certificate, were to be selected soon. Also the educational administrator suggested that the aides have at least a 20 word per minute typing capability. (Prior typing skill was to prove an impossible requirement, but the aides that were chosen rapidly taught themselves to type on PLATO.)

The PCP staff explained that because Graham was a new institution as well as a new PLATO installation, they planned to study how the institution adapted as PLATO got underway, and how PLATO fit into the overall educational program at Graham. To do this, they would need pretest and posttest data from the TABE test for all students in the PLATO classroom. They explained that PCP was aware of the Department of Corrections concern about security and privacy of information on residents, and would keep the data secure.

The PCP staff gave the education administrators a copy of the "Memorandum of Agreement" that had been negotiated with other prison installations. This Memorandum outlined the responsibilities of the prison, the PCP staff, and the classroom PLATO teacher; the first section of this report summarizes much of this information. The PCP staff requested that the educational administrators study it, discuss it with the instructor, and send it back with any changes that they felt were needed. A few days after the visit, a signed copy of the memorandum was received.

It became clear on this visit that the school at Graham was organized around the calendar of GED testing dates. Thus, eight times a year the GED class took the test; about ten days prior to the GED, the TABE test (level D) was given to all GED students. The TABE D thus served as a device for sorting out those students ready to take the GED. Also, at the same time that the TABE D was given to GED students, it was given to all pre-GED, or middle school students, to determine which pre-GED students were ready to

enter the GED classroom. Thus, test results, not completion of a set curriculum, determined exit from the pre-GED program. It would be possible, therefore, for a student to be promoted to the GED classroom without first finishing the PLATO program. Promotion could take as little as six weeks, whereas in other institutions, students often remained in the PLATO classroom for three months, often leaving the classroom prepared to take the GED at once. Graham's short cycle, intended to move students as rapidly as possible into the GED program, would be a new situation for the PLATO Corrections Project. However, PCP was eager to help the Graham correctional staff achieve its objective.

The TABE test would be used to place students in the school program; those scoring above 8.0 would move directly into the GED classroom, whereas students scoring 6.5 - 8.0 would be placed in the middle school, or PLATO, classroom. Students would be paid $17 monthly to attend school (residents at Graham serving as porters are paid $15; teaching aides are paid $20.) There would be two classes of students per day, one from 8:15 to 11:15 and another from 12:30 to 3:30. Thus, the PLATO classroom could serve up to 32 students per day. Classes would be held five days a week. (When the night school program began in December, 1981, another 16 students per day were to be served.)

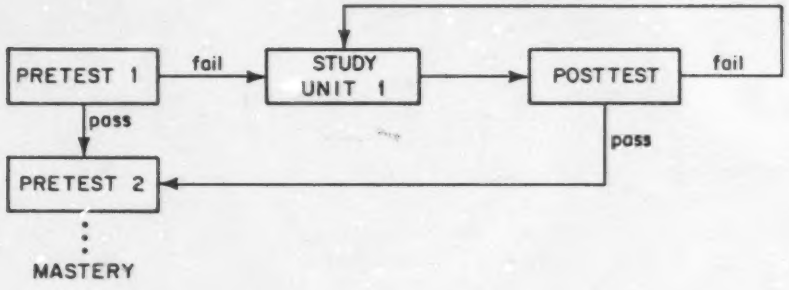
Installation and Training (April - July, 1981)

On April 21, two engineers installed Graham's eight PLATO terminals. Three Graham instructors were trained to use PLATO on April 29 - 30 in Urbana at the University of Illinois. Trainers were three PCP staff members and a PLATO engineer. Two instructor manuals (PLATO Instructor's Handbook for SYS III and Instructor's Guide to the SYS III CMI Program: Second Edition) were used in the training.

The Graham instructors worked steadily for two days, learning how to sign on PLATO; add students to rosters; make assignments of tests and lessons to students; check on student progress; judge tests; communicate with PCP staff, their own students, and other instructors on PLATO; and care for PLATO terminals. Emphasis in the training was not on rote memorization of procedures, since all instructions were on each screen display, but on discovering the capabilities of the system through guided practice using the manuals. Working lunches provided opportunities to instruct the trainees informally, and also permitted Graham and PCP staff to get acquainted and learn one another's responsibilities.

Instructors learned that the PCP system of instruction provides a combination of computerized tests, records, and lessons, along with more traditional paper and pencil practice activities. When the student first enters the program, he receives pretests. The first tests cover easy material, but as the student progresses, the tests become more difficult. The student keeps taking pretests until he fails; when the student fails a pretest, he is assigned appropriate lessons for that unit. The student studies lessons on PLATO, then practices his new skills on worksheets or other instructional materials, then returns to PLATO to take a posttest. When he passes the posttest, he goes on to take the pretest for the next

unit, until he finally completes all the units and receives a certificate of mastery. There are three curricula, (reading, mathematics, and language). A flow chart of a single curriculum appears in Figure 1.



There are 16 units in math, covering whole numbers, fractions, and decimals; eight units in reading comprehension take a student from a 4.5 reading level to about 8.0; and 8 language units cover such topics as sentence recognition, double negatives, and subject-verb agreement. The three curricula are intended to give the student efficient instruction in the basic skills necessary to pass the GED test.

Training the aides. On May 5, two PCP staff members and a PLATO engineer traveled to Graham to instruct two inmate aides to use PLATO. Shortly afterward only one aide was assigned permanently to the PLATO classroom. The trainees were both recent GED recipients, and while eager to learn, both had reading difficulties. Thus while the aides had less material to cover during training than the instructors, they had to move much more slowly. They were unable to complete all the training in the time allowed. This turned out to be an advantage. The first instructor continued to train the aides for several weeks, and thus was able to instill the working habits he preferred; the remaining aide has been observed not only to keep rosters in the same way as the instructor, but also to type in the same rapid fire two-fingered style.

One of the reasons why it was decided to train the aides separately from the instructors was in order to postpone the aides learning the difference between the powers of a PLATO instructor and those of an instructor aide; for instance, instructors can add a student to the class roster, whereas an aide cannot. The aide soon learned the differences, but did so under the direction of the instructor. When the aide later proved to be trustworthy, he was given instructor powers. The risk of an instructor signon for a resident was that instructors could send and receive messages from anyone on the PLATO system. The aide at Graham was instructed that he was free to contact members of the PCP staff and the PLATO engineering staff. This arrangement has worked out satisfactorily. (Since this time, PCP procedures have been modified; now instructor aides have communications options only when the teacher specifically permits them. This gives institutions more control over security while still giving responsible inmates useful ability to assist in the classroom.)

Followup to training. For about two months after the workshop, training continued via PLATO. Student assignments were checked several times a week, and problems dealt with by means of notes sent via PLATO between the PCP site manager and the instructor. The instructor spent all his spare time familiarizing himself with the instructional lessons, and using the training manuals to teach himself how to handle the aspects of the instructional system not covered during the workshop.

An important issue developed during this stage of training. The Graham school program was using the TABE level D to place students in classes. The TABE D tests skills between grade equivalency 5.0 and 12.0. The PCP staff's experience with using the D to place students was that many students did not have the necessary skills for the D, and thus a large number of students received 5.0 scores. The PCP staff strongly recommended that the TABE M be used for placement, since it has a grade equivalency range of 3.0 - 10.0 and more students would be accurately placed in programs. The Graham school staff was reluctant to make the change, because the end of year budget did not permit them to purchase an adequate number of TABE M's to make this change in the testing procedures. PCP agreed to buy twenty copies of the TABE M for Graham, and the educational administrators agreed to retest the first group of PLATO students with the TABE M. Graham's experience with the TABE M quickly proved that it gave more accurate readings of students' entry skills. It has been used as an entry test since.

Another issue that developed during this time concerned the language curriculum. The language lessons on PLATO were old, provided relatively little practice of the skills taught, and were sometimes unclear. (These were not developed by PCP staff.) Until they could be rewritten, a regular text that would provide more practice needed to be included, and the one chosen by the PCP staff was DISTAR Language III, an elementary school text. DISTAR provides a script for the teacher to follow and requires small group instruction in which the students recite in unison. The PCP staff chose DISTAR because it provided the necessary practice of new skills. The material had been used at Sheridan Correctional Center, and the instructor had adapted the materials with good effect on achievement gains.

The Graham teachers and administrators, however, had serious reservations about the use of DISTAR. They felt that reciting in unison was demeaning to an adult student. The PCP staff assured Graham that other adult students had not responded unfavorably. Graham suggested that another adult-level text be used with the PLATO lessons, and PCP explained that the PLATO tests had been written to correspond to sections of the DISTAR book. Since new PLATO language lessons were to be written during the coming year, PCP did not want to invest the time involved in rewriting the tests to conform to a different book. PCP urged that the PLATO instructor make a trip to Sheridan to see DISTAR in use there. Graham agreed to send the teacher, but wanted to wait until the night school PLATO teacher had also been hired, so as to get more inservice training accomplished on a limited travel budget. It was agreed that the Reading and Mathematics curricula would be the only ones taught at Graham until the trip to

Sheridan could be arranged. A hiring freeze that began in July meant that a night school teacher was not to be hired until December, so language was not taught until early the following spring.

A final issue that arose during the post-training phase concerned the addition of new lessons to the PLATO catalog. Only the basic skills lessons were originally put in Graham's catalog, and the first instructor asked for the loan of a catalog of all lessons on the University of Illinois PLATO system. He searched for lessons in advanced percents and decimals, to fit with lessons in the math text Graham was using to prepare students for the GED classroom. The PCP staff felt some concern that before new lessons were added to the catalog, the basic skills curriculum should be fully utilized. The teacher assured PCP that he would first see that his students completed the PCP curriculum before giving them the other lessons, and so the advanced mathematics lessons were added to the catalog.

Classroom Routine at Graham

Each class contained as many as sixteen students. During the first part of the class session, eight students would work at the PLATO terminals, assisted by the aide, who also checked homework. In the meantime, the other eight students would work with the instructor at the pencil and paper tasks while sitting at study carrels. After the break, the two groups of students would switch places.

The carrels turned out to be a problem. Originally it was thought that the carrels would help to provide a work atmosphere, but instead the students found the carrels provided a lot of corners in which to hide. (See Fig. 3.) The students talked quietly together, read library books, and wrote letters. They did not use the class time to work on the paper and pencil activities. We suggested putting the PLATO terminals in the carrels, and lining the carrels up against the wall so the teacher had an unobstructed view of all students.

Figure 3. Carrel arrangement at Graham permits students to work off-task.

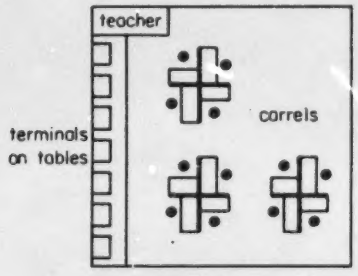
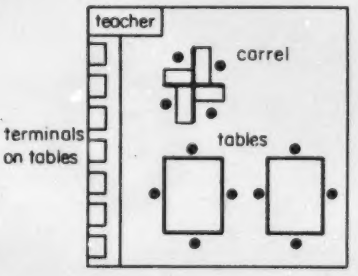


Figure 4. New carrel arrangement permits teacher to see what each student is doing.



However, the Graham carrels were too shallow to hold a PLATO terminal, and the carrels could not be removed from the classroom without being completely dismantled. Other room arrangements were tried in order to eliminate the hiding places. The teacher was encouraged to move around the room and check on the students periodically, insisting that they work on the assignments during the class period. Finally the sidewalls of two of the carrels were removed, so that the carrels became tables; one carrel was left intact, because some students wanted the greater privacy while they worked. (See Fig. 4.) But the overall work atmosphere was altered for the better.

After four months the classroom routine was upset when the first instructor left the PLATO classroom. He was replaced by a second instructor, who shortly after being trained had to resign due to health problems. She was replaced by a third instructor, who had to serve as both assistant education administrator and as classroom teacher. In December a fourth full time PLATO classroom teacher began teaching the afternoon and night classes while the third instructor continued to supervise the morning class. During the two months that these changes took place, the students lost momentum, as reflected in lower achievement scores.

Once the night instructor was hired, he was trained. Most of his training was done by earlier instructors, with the new instructor also spending much time reading the training manuals on his own. The PCP site manager summarized the main points during an afternoon of a daylong site visit.

Monitoring (July - December, 1981)

While contact between the PCP and Graham staffs involved letters, phone conversations, and notes on PLATO, the two most extensive forms of contact were: 1) weekly observation of the classroom based on the reading of computer printouts; and 2) monthly visits to Graham by the site manager and other PCP staff members.

Weekly printout reading. While student progress data was readily available to the teacher, there was no convenient way to keep snapshots of the student's progress from one week to the next. Data was ongoing and cumulative, giving the teacher no impression of the rate of progress. Therefore, the site manager produced, recorded, and examined snapshots based on weekly printouts. First, test histories were produced for both the reading and mathematics curricula. The test histories summarized the date each test was taken, how long the student took to complete the test, what unit of instruction the test covered, whether it was a pretest or a posttest, what the student's score on the test was, and whether the student passed or failed the test.

A second kind of printout summarized the history of each individual student's study of PLATO lessons. The study history supplied a summary of all lessons and how much total study time had been spent in each curriculum during the previous week.

On the basis of these printouts, the site manager constructed a complete history of each student's progress through the program. For each student,

a record was kept of the student's name and number, ethnicity, date of birth, and his scores on the TABE when he entered and left the PLATO classroom. Pretests and posttests for each instructional unit were recorded. Also, time spent in lessons each week was recorded on the form. The site manager examined the data, trying to predict trends:

1. The site manager watched for testing irregularities, such as the student who failed a pretest and was immediately assigned the pretest again, or put into the unit posttest without intervening instruction. Failing a test was usually a sign that the student needed instruction and practice, although sometimes in the teacher's judgement, the student really knew the material and made a careless error; in the latter case, reassigning a test made sense. (The test items were drawn randomly from a pool of items, so the student would not see precisely the same test a second time.)

2. Students not working, or making slow progress through the curriculum, were another sign of trouble. The site manager watched for students who failed a posttest and then stopped working, or students who neglected one curriculum in order to concentrate on another, and students who worked less than two hours in all curricula during a week. The teacher then intervened to get the student working again.

3. Students spent one hour a day on PLATO and another hour each day in paper and pencil work. Thus, a student ideally spent about five hours weekly on PLATO. While there was one case of a student who was computer-shy and preferred to work at conventional materials, in other cases the student who wasn't working on PLATO also wasn't working in his books. The PCP program was based on the premise that both PLATO and non-PLATO practice were required to assure mastery. Thus, students increasing their time on PLATO by more than an hour over the previous week, or working more than the expected five hours per week, were also noted by the site manager so that the teacher could send a note to the students recognizing that they had been working hard.

The result of this study of the weekly printouts was a series of notes on PLATO between the site manager and the teacher about student progress and also about individual lessons. As the PCP staff learned about problems with lessons, the lessons were modified and new ones written. A new data analysis system is nearing completion which will automatically provide the teacher and lesson designers with the information which during the time of this report required many hours of hand-manipulation of data by the site manager.

Site visits. During the first two months that Graham's PLATO classroom was in operation, the PCP staff visited every two weeks. After that, visits came on a monthly basis. Often the site manager, usually with one or two other PCP staff members, arrived by plane at the nearby Litchfield airport and was picked up by car by a Graham staff member. The PCP staff would spend half a day at Graham and then fly on to another site. Usually these

trips would include interviews with the education administrators and with teachers, followed by observation of students and some direct assistance to students.

On other visits, the site manager, with perhaps one other staff member, often an engineer, would arrive by car and spend two days in lengthy classroom observations, in order to help the teacher learn to run a classroom containing an innovative educational medium. General classroom management issues were dealt with on these trips.

Achievement Results

The TABE M is given to every resident as he enters Graham. This test is administered by the education administrators. Students in the PLATO classroom receive the TABE D, monitored and graded by the instructor, when the students are ready to be promoted to the GED classroom. A score of 8.0 is required for promotion to the GED classroom. Originally, all students in the classroom were tested each time the TABE D was given, but after a few months the exit test was given only to students that the instructors thought were ready to be promoted.

Since students were at varying degrees of readiness for the GED, some students were ready to be promoted in two weeks; others took six months. The average amount of time required for promotion was nine weeks. Reasons for promotion taking as long as six months varied. Many students regarded school as a desirable assignment (the kitchen is the most common assignment), and the students preferred to make school last as long as possible. The teachers had to learn to distinguish the slow student from the delaying student.

Between June and December of 1981, however, 91 PLATO students were served. 30 students completed the math curriculum, and 11 completed reading. 34 students were promoted after finishing at least one curriculum, and 19 had been promoted without finishing, for a total of 53 promotions. The average achievement gain on the TABE was 1.4 years in reading and 1.3 years in math. These gains resulted from an average nine weeks in the program.

Twenty-five students left the program before completion (due to transferring to another institution, finishing a sentence, or changing assignment within Graham.) The GED teachers commented that former PLATO students came into the advanced class well prepared, and had the added advantage of having gained experience with computers.

The Future of PLATO at Graham

Orderly change to improve services is a frequent phenomenon with the PLATO Corrections Project. PCP not only supplies the computer terminals, an

instructional management system and a curriculum, but also ongoing development and improvement of services. During the time of this report, a new instructional management system -- SYS IV -- was released for use. Allowing greater instructor control over the students' progress through the curriculum, easier assigning and monitoring procedures, and greater security, the new system works faster than its predecessor system and provides more instructor services. The Graham staff was trained to use it during a two-day workshop at Urbana for all PLATO teachers in the corrections network.

During this workshop, the teachers were also informed about new lessons under development. A series of lessons on finding the main idea in GED-like reading passages was soon to be pilot tested, and a new language curriculum was also under development; individual language lessons were released during the workshop. Aimed at the needs of the GED student, these new series will feature frequent review of new concepts, individualized pacing through the lessons, and more precise testing instruments. Also, the lessons of the old reading curriculum were to be reprogrammed to provide more control for the teacher over errors in lessons due to communications equipment, and also to provide the student with easier facilities for continuing a lesson where he stopped at the close of the previous class period.

Soon to be released is a program that will automatically scan student performance and inform the instructor of potential problems -- replacing the many hours of manual data manipulation discussed above. More such changes are expected in the future. For instance, a new series of lessons on graph reading is under consideration. These graphs lessons will use social studies concepts, so as to help prepare the student for the social studies section of the GED test.

Conclusion

The PLATO Corrections Project has two general goals: for students, the goal is to provide instructional materials and structure such that the student can study precisely the lessons needed and progress at the speed most appropriate for that individual. Achievement gains suggest that learning has been individualized with some success, although PCP's continuing efforts in lesson design indicate that much more should be expected of the project in succeeding years.

For institutions, the goal is to provide such individualized learning without forcing different correctional centers into precisely the same educational/administrative model. While Graham accepted the PCP criteria for selecting students and worked within the guidelines regarding class size and number of hours to be spent weekly in instruction, in other ways the program at Graham varied from that recommended. For instance, Graham did not use the language text recommended by PCP; since language was not taught at Graham during the period of this report, the success of the language materials chosen cannot be measured.

Finally, Graham's short testing cycle means that students are tested twice as often as at other PCP prisons, and that students are moved out of the

classroom as soon as they achieve an 8.0 on the TABE D; thus, finishing the PCP program is secondary to the goal of promotion to the GED classroom, and it is assumed that a promoted student will still need extensive preparation for the GED test. While PCP has doubts about the frequency of testing at Graham, wondering if some students don't suffer from test burnout, we also notice that the students tend to study harder when they know the test is only a short time away. PCP also feels that Graham's carefully thought-out program of preparing students for the GED test is a reasonable and appropriate interpretation of the PCP guidelines. (In some other prisons, often the students' only preparation for the GED is the PLATO classroom.) Such variation from the standard is to be encouraged and worked within; as PCP grows in its ability to meet the goal of effective and efficient instruction, so also it expects to grow in its ability to adapt successfully to many different educational models for pre-GED instruction.

A Suggesting Reading List

The PLATO System, Computer-based Education Research Laboratory, 1979. Elizabeth R. Lyman.

PLATO Highlights, CERL, 1981. Elizabeth R. Lyman.

Teacher's Guide to the PCP Reading Comprehension Program for Adolescent and Adult Learners, PLATO Education Group, 1979. Martin A. Siegel.

Computer-based Education for Prisons, National Clearinghouse of Criminal Justice Planning and Architecture, 1976.

"Computer-based Education Has Been Introduced in Three Illinois Prisons," American Journal of Corrections, 1978. M.A. Siegel, M.O. Gilpin, E.C. Bruner, and L.V. Dibello.

"Computer-based Education in Prison Schools," Educational Technology Systems, Volume 7 (3), 1978-79. Martin A. Siegel.